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EXAMINER
KOCH, GEORGE R

ART UNIT	PAPER NUMBER
1734	16

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/395,254	MADRID, RUBEN P.	
	Examiner	Art Unit	
	George R. Koch III	1734	

-- Th MAILING DATE of this communication app ars on the cov r sh t with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6 and 21-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *23* is/are allowed.

6)☒ Claim(s) *1,2,4,6,21,22 and 24-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 2, 4, 6, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, and 33 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification provides no support or recitation of a *stepable* wirefilm.

3. Furthermore, there is no evidence in the specification or in the art that periodic as used in the specification is synonymous with stepable. Stepable is broader than periodic - it is possible to have non-periodic, or even non-linear stepability, wherein a random spacing sequence is used. The specification merely provides support for periodic, linear spacing of wirefilms on a leadframe.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-2 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Laakso et al. (USPN 4,650,545). Laakso et al. disclose a wirefilm comprising a substantially planarizable film and a plurality of wire strands, each wire strand coupled to the film according to the relative positions of a first component and a second component, the first end of each wire strand operable to contact a first bonding site and the second end of each wire strand operable to contact a second bonding site to electrically interconnect the first component and the second component, and at least a portion of each wire strand between the first end and the second end is fully embedded in the film (See Col. 1, lines 26 – 30, 59 – Col. 2, line 3, Col. 2, lines 31 - 37 and Figs. 1 and 4, items 10, 12, 14, 16, 20 and 24). A portion fully embedded has been interpreted to mean any portion embedded. Laasko appears to be stepable, especially in view of Figure 3, and column 2, lines 23-24 which show "periodic" wirefilms on a single sheet.

Regarding claim 2, the film comprises a plastic polymer (See Col. 1, line 59).

Regarding claim 26, an electrical connection is disclosed that comprises a first component and a second component having first and second bonding sites, respectively, and a wirefilm comprising a substantially planarizable film and a plurality of wire strands, each wire strand coupled to the film according to the relative positions of a first component and a second component, the first end of each wire strand operable to contact a first bonding site and the second end of each wire strand operable to contact a second bonding site to electrically interconnect the first component and the second component, and at least a portion of each wire strand between the first end and the

second end is embedded in the film (See Col. 1, lines 26 – 30, 59 – Col. 2, line 3, Col. 2, lines 31 - 37 and Figs. 1 and 4, items 10, 12, 14, 16, 20 and 24).

6. Claims 21-22, 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamasaki et al. (USPN 5,554,885). Yamasaki et al. discloses a wirefilm comprising a substantially planarizable film and a plurality of wire strands, each wire strand coupled to the film according to the relative positions of a first component and a second component, the first end of each wire strand operable to contact a first bonding site and the second end of each wire strand operable to contact a second bonding site to electrically interconnect the first component and the second component, and each wire strand comprising a loop portion relaxed and located entirely between the first end and the second end, the loop portion spaced apart from the film (See Col. 5, lines 21 - 30 Figs. 1 – 3, 9 –12, items 10, 20, 30, 32, 32, 34 and 40). Yamasaki appears to be stepable. Yamasaki discloses sprocket holes (item 72, see Figure 5), which allows the single wirefilm to be stepable. Furthermore, Yamasaki appears to have the groups of wire strands as claimed in items 30a, 30b, 30c and 30d).

Regarding claim 29, an electrical connection is disclosed that comprises a first component and a second component having first and second bonding sites, respectively, and a wirefilm comprising a substantially planarizable film and a plurality of wire strands, each wire strand coupled to the film according to the relative positions of a first component and a second component, the first end of each wire strand operable to contact a first bonding site and the second end of each wire strand operable to contact

a second bonding site to electrically interconnect the first component and the second component, and each wire strand comprising a loop portion relaxed and located entirely between the first end and the second end, the loop portion spaced apart from the film (See Col. 5, lines 21 - 30 Figs. 1 – 3, 9 –12, items 10, 20, 30, 32, 32, 34 and 40).

Regarding claims 22 and 30, the film comprises a plastic polymer (See Col. 5, lines 65-66).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 4 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laakso et al. as applied to claims 1 and 26 above and further in view of Nakano et al. (USPN 4,857,671). Laakso et al. is silent to a means by which the wirefilm is coupled to the first and second component, but suggest any conventional techniques may be used (See Col. 2, lines 34-37). One in the art would appreciate an adhesive is a conventional means to couple wirefilms to first and second components, which provides a low pressure and temperature coupling means that prevents damage of the wirefilm, first and/or second components. It is well known and conventional to provide an adhesive layer that couples a wirefilm to first and second components as shown, for example, by Nakano et al. (See Col. 1, lines 13-17, 58-61, Col. 2, lines 36-41, Col. 3, lines 7-17, 35-38, Col. 4, lines 62-65). It would have been obvious to one of ordinary skill in the art at

the time of the invention to utilize an adhesive layer in Laakso et al. that couples the wirefilm to the first and second component as shown by Nakano et al. in order to prevent damage to the wirefilm, first component and/or the second component.

9. Claims 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al. as applied to claims 21 and 29 above and further in view of Nakano et al. Yamasaki et al. suggests using high temperatures and pressures to couple the wirefilm to the first and second components, but is silent to an adhesive layer that couples the wirefilm to the components. One in the art would appreciate such high temperatures and pressures may damage the wirefilm and/or components. It is well known and conventional in the art to provide an adhesive layer that couples the wirefilm to the first and second components and prevents damage to the wirefilm and components due to high temperatures and pressures as shown, for example, by Nakano et al. (See Col. 1, lines 13-17, 58-61, Col. 2, lines 36-41, Col. 3, lines 7-17, 35-38, Col. 4, lines 62-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize an adhesive layer in Yamasaki et al. that couples the wirefilm to the first and second component as shown by Nakano et al. in order to prevent damage to the wirefilm, first component and/or the second component.

10. Claims 6 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laakso et al. as applied to claims 1 and 26 above and further in view of Ettre et al. (USPN 3,655,496). Laakso et al. is silent to the wirefilm mounted on a continuous and

automatic film tape carrier. One in the art would appreciate a film tape carrier used in automatic processes achieves a higher production rate than manual processes. It is well known and conventional to provide wirefilms on film tape carriers in automatic processes as shown, for example, by Ettre et al. (See Col. 5, line 40 – Col. 6, line 8, Col. 3, lines 21 – 33 and Figs. 1-2, items 10, 12, 14, 16, 18, 22, 24, 30, 36). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the wirefilm of Laakso et al. in the film tape carrier of Ettre et al. to continuously and automatically provide wirefilms to substrates, thus achieving higher production and efficiency than manual processes. It is noted, the film tape carrier of Ettre et al. is removable coupled to the wirefilm (See Fig. 2, items 22, 12 and 14).

11. Claims 25 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamasaki et al. as applied to claims 21 and 29 above and further in view of Ettre et al. Yamasaki et al. suggest a continuous film having wire strands coupled thereto, but is silent to a film tape carrier removably coupled to the film (See Col. 7, lines 11-24 and Fig. 5, items 10 and 70). One in the art would appreciate punching or cutting the wirefilm, i.e. portion of the film having wire strands coupled thereto, and components from the rest of the film in order to produce a wirefilm coupled to the first and second components (See Col. 1, lines 30-33, Col. 7, lines 40-42 and Figs. 5, 7-12, items 10, 70, 30, 32, 34, 40). Punching or cutting causes undue stress and may damage the wirefilms or components. One in the art would further appreciate that by providing a film tape carrier removably coupled to the film alleviates the need for punching or severing

and therefore eliminates stress and damage of the wirefilm or components. It is well known and conventional in the art to provide a film tape carrier coupled to the film as shown, for example, Ettre et al. (See Col. 1, lines 18-20, Col. 5, line 40 – Col. 6, line 8, Col. 3, lines 21 – 33 and Figs. 1-2, items 10, 12, 14, 16, 18, 22, 24, 30, 36). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide Yamasaki et al. with a film tape carrier removably coupled to the film in order to eliminate stress and damage to the wirefilm or components caused by punching or cutting.

Response to Arguments

12. Applicant's arguments filed 3-20-2003 have been fully considered but they are not persuasive.

13. Applicant argues that Laasko and Yamasaki do not disclose a stepable film. The definition of stepable present in paper #15 makes it clear that both Laasko and Yamasaki can be stepable. Laasko discloses that the films can be on a sheet (see Figure 3), and Yamasaki discloses sprocket holes (item 72, see Figure 5), which allows the single wirefilm to be stepable.

14. Furthermore, it is *stressed* that the phrase "at least a portion... being fully embedded" is not interpreted as distinguishing from "at least a portion... being embedded", since whatever portion is embedded can be characterized as being the portion "fully embedded". Applicant should specify which *portion* is fully embedded,

otherwise, the broadest reasonable interpretation is for whatever portion that is embedded is the *at least a portion* fully embedded.

15. Furthermore, Yamasaki discloses the groups of wire strands (items 30a, 30b, etc) as claimed.

16. Applicant argues in page 7 of paper #15, with regard to claims 4 and 27, and page 8, with regard to claims 24 and 32 that an adhesive step is not a bonding step. This position is not agreed with. The broadest possible reasonable interpretation leads to the adhesive step being a bonding step. Ettre discloses the adhesive step.

17. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the advanceable leadframe and device combination as cited in page 2, paper #15) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

18. Applicant argues that Laasko does not disclose a plastic. Laasko discloses polyimide. Handbook of Plastics, Elastomers and Composites, pages 2.41 to 2.43, refers to polyimides as *plastics*. Thus, Laasko discloses a polymer plastic, i.e., polyimide.

Allowable Subject Matter

19. Claim 23 is allowed.

20. The following is an examiner's statement of reasons for allowance: As noted in paper #8, the prior art made of record does not teach or suggest the combination of at least a portion of each wire strand between the first and second ends embedded in the film, and each wire strand comprising a loop portion relaxed and located entirely between the first and second ends and spaced apart from the film..

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

21. Claim 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph and first paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter: the prior art made of record does not teach or suggest the combination of at least a portion of each wire strand between the first and second ends embedded in the film, and each wire strand comprising a loop portion relaxed and located entirely between the first and second ends and spaced apart from the film.

Conclusion

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

George R. Koch III
June 2, 2003

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700